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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,110	06/14/2001	Kaushik Ghosh	Juniper-12 (JNP-0106)	7923
26479	7590	01/25/2005	EXAMINER	
STRAUB & POKOTYLO 620 TINTON AVENUE BLDG. B, 2ND FLOOR TINTON FALLS, NJ 07724			HABTE, ZEWDU	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/881,110	GHOSH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Zewdu Habte	2661	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-31 and 36-47 is/are allowed.
- 6) ☒ Claim(s) 1-15, 32 and 33 is/are rejected.
- 7) ☒ Claim(s) 3,13-15,34,35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

Claims 1, 16, and 26 are objected to because of the following informalities:

In claim 1 lines 1, "the sampling" should be changed to –sampling–.

In claim 16 lines 1, "the sampling" should be changed to –sampling–.

In claim 26 lines 1, "the sampling" should be changed to –sampling–.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 9-10, reads, "... not forwarding samples", when next hop information is not stable. It is not clear how samples get generated in the first place? It is not clear how samples get generated when next hop information is not stable, because samples get generated only when the state of the next hop information is stable, (claim 1, lines 5-6, if it is determined that the state of the next hop information is stable, then...).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2, 4, 9-12, 32, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boivie et al. (US 6625773 B1) in view of Li (US 6791980B1).

As to claim 1 Boivie teaches a method for controlling the sampling of addressed data, the method comprising: a) ... of next hop information defining a destination for samples of addressed data (col. 2, lines 42-43, determining a next hop for each of the destination nodes listed in the packet received); b) if it is determined ... of the next hop information is... then i) generating samples from the addressed data (col. 2, lines 47-48, replicating the packet...), and ii) forwarding the samples based on the next hop information (col. 2, lines 54-56, transmitting the replicated copies of the packet to each of the next...), and c) if it is determined ... of the next hop information is ..., then not forwarding samples. Boivie does not teach that the state of the next hop information is stable or not stable, but Li teaches (col. 7, lines 45-54, if the policy route is accepted or rejected, that is to say, stable or not stable, the logic determines the next route is stable and the packet is forwarded to the next step; otherwise, the logic determines not to forward the packet). It would have been obvious to one of ordinary skill in the art to combine Boivie with Li for the purpose of determining information about whether or not

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the state of next hop information is stable or not stable. The motivation is to avoid unnecessary bandwidth usage by duplicating and transmitting packets without predetermining the state of the receiving end.

As to claim 2 Boivie discloses the method of sample generating (col. 2, lines 47-48, replicating packets), but does not specifically teach dropping samples generated. Li teaches that a packet is dropped if the next route is determined as a rejected route or as an unstable route (col. 7, lines 51-54, when the policy route is the rejected route, the packet is dropped). It would have been obvious to one of ordinary skill in the art to combine Boivie with Li for the purpose of dropping samples generated if the next hop information is not stable. The motivation is that by dropping packets with no stable next hop information, the sender is minimizing resource usage such as memory, which implies minimizing packet retrieving time in the network.

As to claim 4 Boivie discloses the method of claim 1 wherein the addressed data are packets (col. 2, line 56, routing ...addresses included in each packet).

As to claim 9 Boivie discloses the method of claim 1 wherein the next hop information is associated with a next hop destination address (col. 4, lines 20-23, ...to determine the next hop of each of the destinations listed).

As to claim 10 Boivie discloses the method of claim 1 wherein the act of determining a state of next hop information defining a destination for samples of addressed data includes reading a state flag (implicitly taught because in order to determine the next hop's condition, a router looks at a forwarding table for a flag that indicates the route's or the interface's condition).

As to claim 11 Boivie discloses the method of claim 10 wherein the state flag is stored in a hardware register (col. 7, lines 30-33, instructions are stored in a memory device; a memory device is a bundle of registers in one packet).

As to claim 12 Boivie teaches that the act of generating samples from the addressed data is performed based on parameters (col. 4, lines 24-25, the first parameter is to duplicate the original packet once for each next hop destination address).

As to claim 32 Boivie discloses a machine-readable medium having machine-readable data structures stored thereon (claim 23, a computer readable medium wherein a computer program is stored in it), the machine readable data structures comprising: a) at least one parameter for controlling the sampling of addressed data (claim 23, lines 39-41, parameter to duplicate the original packet once for each next hop destination address); b) information identifying a next hop destination of samples of addressed data (col. 4, lines 20-23, performs a route table lookup to determine the...). Boivie does not specifically teach c) information identifying a state of the information identifying a next hop destination of samples of addressed data, but Li teaches (col. 7, lines 45-46, the logic determines if the policy route is designated as accepted or rejected route). It would have been obvious to one of ordinary skill in the art to combine Boivie with Li for the purpose of identifying the state of the next hop. The motivation is to avoid unnecessary bandwidth usage by duplicating and transmitting packets without predetermining the state of the receiving end.

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As to claim 33 Boivie teaches the machine-readable medium of claim 32 further comprising: d) a forwarding table (claim 24, a computer readable medium performs a route table lookup that comprises a forwarding table).

Claims 5 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li and Boivie as applied to claims 1 and 16 above, and further in view of Zhang et al. (US 6275492 B1).

As to claims 5 and 7 neither Boivie nor Li teach that the next hop information includes an index or name associated with an interface, but Zhang teaches (col. 4, lines 10-15, table 1 indicates the next hop information with the destination node name N1). It would have been obvious to one of ordinary skill in the art to combine Boivie and Li with Zhang for the purpose of having next hop information that includes index or name that is associated with an interface. The motivation is to have next hop information with a destination name included in the information so that way the packet sending router could tell the packet is forwarded to the end terminal.

As to claims 6 and 8 neither Boivie nor Li teach the method of claim 5 wherein a link terminated by the interface defines a point-to-point connection with a sample destination device, but Zhang discloses (col. 3, table 1 shows a point-to-point connection between node N1 and router R1). It would have been obvious to one of ordinary skill in the art to combine Boivie and Li with Zhang for the purpose of having information that includes a point-to-point connection with a sample destination device. The motivation is to make sure the next hop is the packet destination point so that the packet duplication process begins; this way bandwidth usage is minimized.

***Allowable Subject Matter***

Claims 3, 13-15, 34 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16-31, 36-47 allowed.

Claims 16, 26, 36, 38, 42, 44 are allowable because the prior art of record fails to teach, in combination with other claim limitations,

As to claim 16, b) ..., then ensuring that information used to control the sampling of addressed data indicates that the next hop information is unstable.

As to claim 26, d) storing the determined next hop interface information and the state of the next hop interface information.

As to claims 36 and 38,

ii) an indicator for indicating a state of the next hop information;

wherein, if the indicator indicates that the state of the next hop information is not stable, then the sampling facility will not generate and forward samples.

As to claim 42, an addressed data forwarding device comprising: ... c) a second storage device for storing next hop information defining how samples generated from addressed data are to be forwarded, and ii) an indicator for indicating a state of the next hop information.



As to claim 44, d) a sampling control facility for determining a state of next hop information defining a destination for samples of addressed data, and storing, in the storage device, an indicator of whether or not the state of next hop information is stable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zewdu Habte whose telephone number is 571-272-3115. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ZH



**KENNETH VANDERPUYE**  
**PRIMARY EXAMINER**

Zewdu Habte (Zed)  
Examiner  
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